

# TEXAS DEPARTMENT OF INSURANCE

Engineering Services Program / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104  
Phone No. (512) 322-2212 Fax No. (512) 463-6693

---

## PRODUCT EVALUATION RC-354

Effective Date: January 1, 2013

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation in **January 2017**.*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

**24 gauge Nail Line 100 Snap Lock Metal Roofing Panels Installed Over a Plywood Deck,**  
manufactured by

**ACI Building Systems**  
**10125 Highway 6 West**  
**Batesville, Mississippi 38606**  
**Telephone: (662) 563-4574**  
**www.acibuildingsystems.com**

will be accepted for use in areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

## PRODUCT DESCRIPTION

This evaluation report is for Nail Line 100 snap lock metal roofing panels installed over a plywood deck. The Nail Line 100 panel is minimum 24 gauge galvalume coated steel. The 24 gauge metal roof panels have an actual coverage of 16". Each metal roof panel has ribs that are 1" deep. The metal roofing panels conform to ASTM A792, SS Grade 50 Class 1 or Class 2, with a minimum 50,000 psi yield strength. The metal roofing panels can be furnished painted over an AZ 50 hot-dipped aluminum zinc alloy coated or an acrylic-coated Galvalume steel with an AZ 55 hot-dipped aluminum zinc alloy coating. The metal roofing panels can be painted with silicone polyester products or with Kynar paint systems.

## LIMITATIONS

**Roof Framing:** The metal roofing panels shall be installed over minimum  $1\frac{5}{32}$ " thick plywood deck.

**New Roof Framing Attachment:** The roof framing shall meet or exceed the uplift requirements of the International Residential Code or International Building Code and shall be installed as required for resistance to wind loads.

**Design Wind Pressures:** The design pressure uplift load resistance shall be as specified in Table 1.

**Roof Slope:** The metal roofing panels may be installed on roofs with a minimum roof slope of 3:12.

**Installation Over an Existing Roof Covering:** Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingles, wood shingles or shakes, built-up roofing, or roll roofing applied over an existing, solid roof deck of minimum 15/32" plywood. Note: Inspection of the existing roof deck must be made prior to the installation of the roof panels. The condition of the existing roof deck must be acceptable to receive the metal roofing panels before the metal roofing panel installation proceeds. NOTE: Underlayment is not required to be installed.

**Table 1**

Attachment of minimum 24 gauge Nail Line 100 metal roofing panels to minimum 15/32" thick wood deck

Design Wind Pressure	Attachment of Panel to Minimum 15/32" Plywood Deck
-41.7 psf	No. 10-12 x 1" Type A Pancake @ 18 1/4 inches on center
-138.5 psf	No. 10-12 x 1" Type A Pancake @ 4 9/16 inches on center

### INSTALLATION INSTRUCTIONS

**Panels:** The metal roofing panels shall be secured to the roof covering as specified in Table 1 and in accordance with this section.

**Underlayment:** A minimum of one layer of No. 30 (Type II) asphalt felt shall be used. The underlayment used shall comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The underlayment shall be installed per manufacturer's installation instructions.

**Attachment of Metal Roof Panels to the Roof Deck:** The metal roofing panels shall be secured to the roof substrate in the following way:

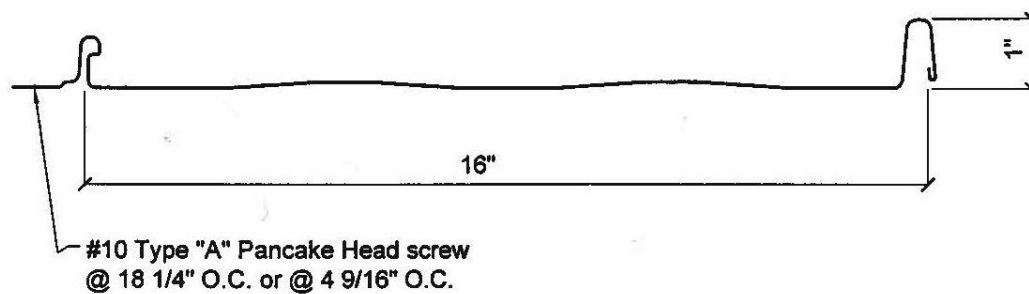
**Roofing Panels to Plywood Deck:** Minimum No. 10-12 x 1" Type A Pancake screws. The fasteners shall be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the metal roofing panels are installed over an existing roof covering, then the fastener length shall be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof decking.) The maximum allowable spacing of the fasteners is specified in Table 1. Refer to Figure 1 for an illustration of the panel profile.

**Panel Ends:** Minimum No. 9-15 x 1 1/2" HWH screws. The fasteners shall be long enough to ensure a minimum penetration of 1/4" below the roof deck.

**Trims, Closures, and Accessories:** Components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim shall be installed as required by the manufacturer.

**Alternative Fasteners:** An alternative panel fastener may be used only if the pullout values into 15/32" plywood are equivalent or better.

**Note:** The manufacturer's installation instructions shall be available on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.



## Nail Line 100

Figure 1, Nail Line 100 Panel Profile